

What is claimed is:

1. A combination for use in moving a light source relative to a reflector, the combination comprising:

a reflector including a first open end adapted to emit
5 a light beam, a second end, and a reflector axis extending between said first open end and said second end;

a light source;

a movable light source holder including a receiver and an actuation interface, wherein said receiver holds said
10 light source in a position between said first open end and said second end of said reflector, and wherein said actuation interface is used to cause said movable light source to move substantially laterally relative to the reflector axis.

15 2. A combination of claim 1, wherein said actuation interface is configured to receive actuating pressure for moving said movable light source holder.

3. A combination of claim 1, wherein said actuation interface is a socket.

4. A combination of claim 3, wherein said socket defines a first actuation axis, wherein said movable light source holder moves about said first actuation axis, wherein said first actuation axis is not coincident with
5 the reflector axis.

5. A combination of claim 4, wherein said movable light source holder is movable about a second actuation axis, wherein said second actuation axis is substantially perpendicular to said first actuation axis.

10 6. A combination of claim 3, wherein said socket defines a first axis, wherein said movable light source holder is caused to move by maneuvering said first axis.

7. A combination of claim 1 further including an actuating member removably coupled to said actuation
15 interface for moving said light source relative to said reflector.

8. A combination of claim 7, wherein said actuating member is a hex key.

9. A combination of claim 1, wherein said movable light source holder is translatable relative to said reflector axis.

10. A combination of claim 1, wherein said movable
5 light source holder includes a substantially spherical housing.

11. A device for projecting a beam of light comprising:

a portable source of power;

10 a substantial point source of light electrically connected to said source of power;

a reflector having a first open end for emitting a beam of light, a second end and an axis extending therebetween;

15 a holder positioning said substantial point source of light within said reflector;

an actuating member operatively connected to said holder to move said holder and align said substantial point source of light with said axis of said reflector.

12. A device of claim 11, wherein said holder is movable about at least a first axis, wherein said first axis is not coincident with said axis of said reflector.

13. A device of claim 11, wherein said holder is
5 movable about more than one axis.

14. A device of claim 11, wherein said reflector includes a focal point on said reflector axis and said actuator is adapted to move said holder and align said substantial point source of light with said focal point.

10 15. A device of claim 11, wherein said first axis is substantially perpendicular to said axis of said reflector.

16. A device of claim 11, wherein said portable source of power comprises one or more dry cell batteries.

17. A device of claim 11, wherein said substantial
15 point source of light is positioned on a lamp filament.

18. A device of claim 16, wherein a first housing maintains said one or more dry cell batteries, a second housing maintains said reflector, and a biasing means biasing said one or more batteries toward said second
20 housing.

19. A flashlight comprising:

a barrel for retaining one or more batteries, said barrel having first and second ends;

a reflector mounted to said first end of said barrel
5 including a first open end adapted to emit a light beam, a second end and a reflector axis extending therebetween;

an illumination source;

a movable holder including a receiver and an actuation interface, wherein said receiver holds said illumination
10 source in a position between said first open end and said second end of said reflector, wherein said actuation interface is used to move said movable holder for adjusting the position of said illumination source relative to said reflector axis; and

15 an electrical circuit coupling said illumination source to said one or more batteries.

20. A flashlight of claim 19, wherein said actuation interface is configured to receive actuating pressure for moving said movable holder.

21. A flashlight of claim 19, wherein said actuation interface is a socket.

22. A flashlight of 19, wherein said movable holder moves about an actuation axis, wherein said actuation axis
5 is not coincident with said reflector axis.

23. A flashlight of claim 19 further including an actuating member coupled to said actuation interface for moving said movable holder, wherein said actuating member is separable from said actuation interface.

10 24. A flashlight of claim 23, wherein said reflector is fixedly mounted to said barrel.

25. A flashlight of claim 19, wherein said head assembly includes a separate sleeve, wherein said sleeve covers said actuation interface when secured to said head
15 assembly, and wherein said sleeve uncovers and facilitates access to said actuation interface when separated from said head assembly.

26. A flashlight of claim 25, wherein said sleeve is threadably engaged with said head assembly.

27. A flashlight of claim 19 further including a switch for completing and interrupting said electrical circuit, wherein said switch is interposed between said one or more batteries and said reflector.

5 28. A flashlight of claim 25 further including a switch for completing and interrupting said electrical circuit, wherein said switch completes and interrupts said electrical circuit in response to rotation of said head assembly.

10 29. A flashlight of claim 19 further including a conducting member interposed between said barrel and said head assembly, wherein said conducting member is externally accessible and electrically coupled to said electrical circuit.

15 30. A flashlight of claim 27, wherein said switch assembly includes a microprocessor.

31. A flashlight of claim 19 further including a conducting member for recharging said one or more batteries without removing said one or more batteries from said
20 barrel, wherein said conducting member is electrically coupled to said electrical circuit.

32. A flashlight of claim 31, wherein said conducting member is interposed between said barrel and said head assembly.

33. A flashlight of claim 31, wherein said conducting
5 member is a ring.

34. A flashlight of claim 19, wherein said barrel forms part of said electrical circuit.

35. A flashlight of claim 19, wherein a cam controls the movement of said movable holder in a direction parallel
10 to said reflector axis.

36. A flashlight of claim 35, wherein said cam rotates about the axis of said reflector.

37. A portable lighting device comprising:

a housing for receiving a portable source of energy;

15 a substantial point source of light electrically coupled to said source of energy;

a reflector having a central axis and an open end, said open end adapted for emitting a beam of light;

a holder for positioning said point source of light relative to said central axis of said reflector; and

means for aligning said substantial point source of light with said central axis.

5 38. A portable lighting device of claim 37 further including a switch for controlling energy from said portable source of energy to said substantial point source of light.

10 39. A portable lighting device of claim 38, wherein said switch is adapted to close or open in response to translation of said holder.

40. A portable lighting device of claim 39, wherein said switch includes a tactile response feature to indicate that the switch is open.

15 41. A portable lighting device of claim 37 further including means for translating said substantial point source of light along said reflector axis.

42. An illuminating device comprising:

a housing for receiving a source of energy;

a source of light electrically coupled to said source
of energy;

5 a reflector for reflecting light generated from said
source of light including a first open end and an axis,
said open end adapted for emitting a substantial beam of
light;

a movable source of light holder adapted to move said
10 source of light substantially laterally relative to said
axis of said reflector.

43. A illuminating device of claim 42, wherein said
movable source of light holder includes an actuation
interface for moving said movable source of light holder.

15 44. A illuminating device of claim 43, wherein said
actuation interface is a socket.

45. A illuminating device of claim 43 further
including an actuating member operatively coupled to said
movable source of light holder at said actuation interface.

46. A illuminating device of claim 42, wherein said reflector is substantially symmetrical about said axis.

47. A illuminating device of claim 46, wherein said reflector is parabolic.

5 48. A illuminating device of claim 42, wherein said movable source of light holder includes a substantially spherical housing.

49. A illuminating device of claim 48, wherein said spherical housing moves within a spherical envelope.

10 50. A illuminating device of claim 42 further including means for aligning said substantial point source of light with said axis of said reflector.

51. A illuminating device of claim 42 further including means for aligning said source of light with a
15 focal point of said reflector.

52. A portable lighting device of claim 42 further including a switch for controlling energy from said portable source of energy to said substantial point source of light.

53. A portable lighting device of claim 52, wherein said switch is adapted to close or open in response to translation of said movable source of light holder.

54. A portable lighting device of claim 53, wherein
5 said switch includes a tactile response feature to indicate that the switch is open.

55. A lighting device comprising:

a housing for receiving a source of energy;

a substantial point source of light coupled to said
10 source of energy;

a reflector including an axis and an open end for reflecting light generated by said substantial point source of light, said open end adapted for emitting a beam of light; and

15 means for aligning said substantial point source of light with said axis of said reflector.

56. A lighting device of claim 55, wherein said reflector includes a focal point.

57. A lighting device of claim 56 further including means for aligning said substantial point source of light with a focal point of said reflector.

58. A lighting device of claim 55, wherein said
5 reflector is substantially symmetrical about said axis.

59. A lighting device comprising:

a housing for receiving a source of energy;

a substantial point source of light coupled to said source of energy;

10 a reflector including a focal point and an open end for reflecting light generated by said substantial point source of light; and

means for aligning said substantial point source of light with said focal point of said reflector.

15 60. A hand-held, portable lighting device, comprising:

a housing for receiving and maintaining a portable source of energy;

a bulb having a substantial point source of light
generated by said portable source of energy;

an electrical circuit which connects said source of
energy and said bulb;

5 a reflector for forming a beam of light having a first
open end adapted to emit said light beam, a second end, an
inner reflective surface therebetween and a focal point
positioned between said first and second end, and within
the area defined by said reflective surface;

10 a movable bulb holder for holding said bulb; and

an actuating member operatively coupled to said bulb
holder for moving said bulb and thereby aligning said point
source of light substantially co-axially with said focal
point.

15 61. A device of claim 60, wherein said reflector is a
substantially axisymmetrical reflector having an axis
extending between said first and second ends with said
focal point located on said axis.

62. A device of claim 61, wherein said movable bulb
20 holder is controllably translatable in a direction along

said axis to vary the relative axial position of said point source of light with said focal point.

63. A device of claim 61 further including a head, said head operably connected to said housing and fixed to
5 said reflector, wherein said reflector is controllably translatable in a direction along said axis to vary the relative axial position of said point source of light with said focal point.

64. A device of claim 63, wherein said device
10 includes a lens adjacent said first open end of said reflector and a head operably connected to said housing which maintains said lens and said reflector in a fixed relationship.

65. A device of claims 60 or 63, wherein said head
15 threadably engages one end of said housing.

66. A device of claim 65, wherein said other end of said housing is adapted to be received by said head to support said housing in a substantially upright position when said head is removed from said one end of said
20 housing.

67. A device of claim 63, wherein said electrical circuit includes a switch to close said electrical connection between said portable source of energy and said bulb and cause said point source to generate light.

5 68. A device of claim 60, wherein said electrical circuit includes a switch to close said electrical connection between said portable source of energy and said bulb and cause said point source to generate light.

10 69. A device of claim 67, wherein said switch is capable of closing said electrical connection when said head is disconnected from said housing and said moveable bulb holder positions said point source of light beyond said housing and thereby provides for a dispersion of substantially spherical illumination.

15 70. A device of claim 67, wherein said switch is activated by changing the position of said head relative to said housing.

71. A device of claim 70, wherein said switch is activated by rotating said head relative to said housing.

72. A device of claim 60, wherein a head containing said reflector is connected to said housing and said head is controllably translatable relative to said housing and movement thereof in one direction closes said electrical
5 connection between said portable source of energy and said bulb.

73. A device of claim 72, wherein said one direction is away from said housing.

74. A device of claim 60, wherein a securing
10 mechanism is provided to maintain the position of said point source of light with said focal point after said point source of light has been substantially co-axially aligned with said focal point.

75. A device of claim 60, wherein a cam controls the
15 movement of said movable bulb holder.

76. A device of claim 60, wherein said portable source of energy comprises at least one dry cell battery.

77. A device of claim 76, wherein said housing maintains in series a plurality of dry cell batteries.

78. A device of claim 77, wherein the center electrode of the first battery of said series of batteries is operably connected to a switch through conductive means, said conductive means including spring biased conductive
5 elements.

79. A device of claim 72, wherein said head is operably connected to one end of said housing and a tail cap is connected to said other end of said housing, an electrical circuit electrically connecting said battery to
10 said bulb, said electrical circuit including a spring to bias said battery.

80. A device of claim 60, wherein said bulb includes a pair of electrodes, said substantial point source of light on a filament extending between said electrodes.

15 81. A device of claim 61 wherein said movable bulb holder is controllably translatable in a direction along said axis to vary the relative axial position of said point source of light with said focal point.

82. A device of claim 61, wherein said electrodes are
20 maintained in electrical connection with said source of energy when said actuator moves said bulb.

83. A device of claim 82, wherein said actuating member moves said bulb when light is being generated and a beam of light is emitted from said first open end of said reflector.

5 84. A device of claim 60 further including a conducting member that is externally accessible for recharging said portable source of energy, wherein said conducting member is electrically coupled to said electrical circuit.

10 85. A combination for use in aligning a substantial point source of light of a lamp bulb with an axis of a flashlight reflector, the combination comprising:

a body member for receiving a portable source of electrical energy;

15 a lamp bulb including a substantial point source of light operably connected to said portable source of electrical energy;

a substantially axisymmetrical reflector having a first open end adapted to emit a light beam, a second end
20 adapted to receive said lamp bulb extending toward said

first open end, and an axis extending from said second end to said first open end;

a movable lamp bulb holder adapted to hold said lamp bulb and an actuation interface to move the movable lamp
5 bulb holder.

86. A combination of claim 85, wherein said actuation interface is a hexagonal socket.

87. A combination of claim 85 further including an actuating member coupled to said actuation interface for
10 moving said movable lamp bulb holder.

88. A combination of claim 85, wherein said actuation interface defines an axis.

89. A combination of claim 88, wherein said movable lamp bulb holder is caused to move by maneuvering said axis
15 defined by said actuation interface.

90. A combination of claim 85 further comprising a securing mechanism to maintain the position of said substantial point source of light with said reflector axis after said filament has been moved relative to said
20 reflector axis.

91. A combination for use in aligning a substantial point source of light with an axis of a reflector, the combination comprising:

a reflector including a first open end adapted to emit
5 a light beam, a second end and an axis extending therebetween;

a lamp bulb including a filament having a substantial point source of light;

a movable lamp bulb holder including a receiver to
10 hold said lamp bulb in a position with said filament extending through said second end of said reflector; and

an actuating member operatively coupled to said movable lamp bulb holder for moving said filament of said lamp bulb relative to said axis of said reflector.

15 92. A combination of claim 91, wherein said reflector is substantially parabolic.

93. A combination of claim 91, wherein said actuating member is mechanically coupled to said movable lamp bulb holder.

94. A combination of claim 91, wherein said actuating member is slidably coupled to said movable lamp bulb holder.

95. A combination of claim 91, wherein said actuating member is separable from said movable lamp bulb holder.

96. A combination of claim 91, wherein said actuating member is integral to said movable lamp bulb holder.

97. A combination of claim 91, wherein said movable lamp holder includes a socket, said socket defining a first actuating axis.

98. A combination of claim 97, wherein said actuating member couples with said socket, wherein said actuating member moves said filament of said lamp bulb by rotating said movable lamp bulb holder about said first actuating axis.

99. A combination of claim 97, wherein said actuating member moves said filament of said lamp bulb by rotating said movable lamp bulb holder about a second actuating axis, said second actuating axis substantially perpendicular to said first actuating axis.

100. A combination of claim 91, wherein said movable lamp bulb holder includes an actuation interface, said actuation interface configured to couple with said actuating member.

5 101. A combination of claim 91, wherein said actuating member moves said filament of said lamp bulb in a non-linear path.

102. A combination of claim 91, wherein said lamp bulb includes two electrodes with said filament and said
10 substantial point source of light extending between said two electrodes.

103. A combination of claim 102, wherein said receiver of said movable lamp bulb holder includes two apertures to receive said two electrodes.

15 104. A combination of claim 91, wherein said movable lamp bulb holder further includes a pair of tabs disposed opposite to each other, said pair of tabs defining a holder axis substantially perpendicular to said axis of said reflector.

20 105. A combination of claim 104, wherein said actuating member moves said filament of said lamp bulb by

rotating said movable lamp bulb holder about said holder axis.

106. A combination of claim 91 further including a support housing for holding said reflector having a window,
5 wherein said actuating member extends through said window to couple to said movable lamp holder.

107. A flashlight comprising:

a barrel for retaining one or more batteries, said barrel having first and second ends;

10 a head assembly adjacent to said first end of said barrel including a reflector and lens mounted in a mutually fixed relationship, said reflector including a first open end adapted to emit a light beam, a second end and an axis extending therebetween;

15 a lamp bulb including a filament;

a movable lamp bulb holder disposed at said first end of the barrel, said movable lamp bulb holder including a receiver to hold said lamp bulb in a position with said filament extending through said second end of said
20 reflector;

an actuating member operatively coupled to said movable lamp bulb holder for adjusting the position of said filament of said lamp bulb relative to said axis of the reflector; and

5 an electrical circuit coupling said filament of said lamp bulb to said one or more batteries.

108. A flashlight of claim 107, wherein said head assembly is movably mounted to said first end of said barrel.

10 109. A flashlight of claim 107, wherein said actuating member is slidably coupled to said movable lamp bulb holder.

110. A flashlight of claim 107, wherein said actuating member causes said filament of the lamp bulb to move in a
15 non-linear path.

111. A flashlight of claim 107, wherein said lamp bulb includes two electrodes with said filament extending between said two electrodes.

112. A flashlight of claim 111, wherein said receiver
20 of said movable lamp bulb holder includes two apertures to receive said two electrodes.

113. A flashlight of claim 107, wherein said movable lamp bulb holder further includes a pair of tabs disposed opposite to each other, said pair of tabs defining a holder axis substantially perpendicular to said axis of said
5 reflector.

114. A flashlight of claim 113, wherein said actuating member moves said filament of said lamp bulb by rotating said movable lamp bulb holder about said holder axis.

115. A flashlight of claim 107, wherein said movable
10 lamp bulb holder translates in a direction along said axis of the reflector.

116. A flashlight of claim 115, wherein said movable lamp bulb holder translates by rotating said head assembly about said axis of the reflector.

15 117. A flashlight of claim 107, wherein said second end of said barrel includes a conductive spring connected to said electrical circuit, said conductive spring arranged to bias said one or more batteries toward said movable lamp bulb holder.

20 118. A flashlight of claim 107, wherein said second end of said barrel is adapted to be received by said head

assembly to support said barrel in a substantially upright position when said head assembly is removed from said first end of said barrel.

119. A flashlight of claim 107 further including a
5 substantial point source of light on said filament and a means for maintaining the position of said substantial point source of light with respect to said reflector axis after said filament has been moved relative to said reflector axis.

10 120. A flashlight of claim 107 further including an adaptable conductor means interposed in said electrical circuit and operably connected to said filament of said lamp bulb for maintaining electrical contact while moving said lamp bulb filament relative to said axis of the
15 reflector.

121. A flashlight of claim 107 further including a curved conductor interposed in said electrical circuit and operably connected to said filament of said lamp bulb and mounted to said movable lamp bulb holder to maintain
20 electrical contact while moving said lamp bulb filament relative to said axis of the reflector.

122. A flashlight of claim 121, wherein said curved conductor includes a first contact and a second contact electrically connected to said first contact, said first contact adapted to frictionally receive the electrode of
5 said lamp bulb, said second contact includes a curved area for maintaining an equidistant electrical contact location relative to an adjacent electrically connecting conductor.

123. A flashlight of claim 107, wherein said movable lamp holder includes a socket, said socket defining a first
10 actuating axis.

124. A flashlight of claim 123, wherein said actuating member couples with said socket, wherein said actuating moves said filament of said lamp bulb by maneuvering said first actuating axis.

15 125. A flashlight of claim 107, wherein said actuating member includes an actuation interface, said actuation interface configured to couple with said actuating member.

126. A flashlight of claim 107, further comprising a holding spring biased against said movable lamp bulb holder
20 for maintaining a position of said filament with said reflector axis.

127. A flashlight of claim 107, wherein said actuating member is separable from said movable lamp bulb holder.

128. A flashlight of claim 125, wherein said head assembly includes a removable sleeve, wherein said sleeve
5 covers said actuation interface when connected to said head assembly, and wherein said sleeve uncovers said actuation interface and facilitates said actuating member to couple with said actuating interface when removed from said head assembly.

10 129. A flashlight of claim 128, wherein said sleeve is threadably engaged with said head assembly.

130. A flashlight of claim 107, wherein said head assembly includes a removable sleeve, wherein said sleeve covers said actuating member when secured to said head
15 assembly, and wherein said sleeve uncovers and facilitates the user to access said actuating member when removed from said head assembly.

131. A flashlight of claim 107 further including a switch for completing and interrupting said electrical
20 circuit, wherein said switch is interposed between said one or more batteries and said reflector.

132. A flashlight of claim 107 further including a
conducting member for recharging said one or more batteries
without removing said one or more batteries from said
barrel; wherein said conducting member is electrically
5 coupled to said electrical circuit.

133. A flashlight of claim 132, wherein said
electrical circuit includes a printed circuit board,
wherein said conducting member is coupled to said printed
circuit board.

10 134. A flashlight of claim 132, wherein said
conducting member is externally accessible.

135. A flashlight of claim 132, wherein said
conducting member is interposed between said barrel and
said head assembly.

15 136. A method of aligning a substantial point source
of light of a filament of a lamp bulb with a flashlight
reflector axis, the method comprising:

positioning the filament of the lamp bulb relative to
an end of the reflector opposite a light beam emitting end
20 and the reflector axis extending between said ends; and

moving the substantial point source of light of the filament of the lamp bulb from a first position relative to the reflector axis to a second position aligned with the reflector axis.

5 137. A method of claim 136, wherein the step of moving the filament includes substantially laterally moving the filament relative to the reflector axis.

138. A method of claim 136, wherein the step of moving the substantial point source of light of the filament
10 includes:

holding the lamp bulb in a movable bulb holder, wherein the movable bulb holder includes an actuation interface; and

maneuvering the movable bulb holder using the
15 actuation interface.

139. A method of claim 138, wherein the step of maneuvering the movable bulb holder includes coupling an actuating member with the actuation interface and moving the actuating member.

140. A method of claim 136, wherein the step of moving the substantial point source of light of the filament includes moving the filament in a non-linear path.

141. A method of claim 137 further including the step
5 of confirming alignment of the substantial point source of light of the filament to the reflector axis by visually observing the quality of the light beam emanating from the reflector.

142. A method of claim 141, wherein the step of
10 confirming alignment of the substantial point source of light of the filament includes visually observing the symmetry of the light beam emanating from the reflector.

143. A method of claim 136 further including a step of
15 varying the position of the reflector relative to the filament to align the substantial point source of light of the filament with a focal point of the reflector.

144. A method of claim 143 further including the step
of confirming alignment of the substantial point source of light of the filament with the focal point of the reflector
20 by visually observing the quality of the light beam emanating from the reflector.

145. A method of claim 143, wherein the step of confirming alignment of the substantial point source of light of the filament with the focal point includes visually observing the light intensity of the light beam
5 emanating from the reflector.

146. A combination for use in aligning a substantial point source of light of a filament of a lamp bulb with an axis of a flashlight reflector, the combination comprising:

a body member for receiving and housing a portable
10 source of electrical energy;

a lamp bulb including a filament operably connected to said portable source of electrical energy, said filament including a substantial point source of light;

a substantially axisymmetrical reflector having a
15 first open end adapted to emit a light beam, a second end adapted to receive said lamp bulb extending toward said first open end, and an axis extending from said second end to said first open end;

a movable lamp bulb holder adapted to hold said lamp
20 bulb; and

an actuating member operatively coupled to said
movable lamp bulb holder for adjusting the position of said
lamp bulb filament relative to said reflector axis and
aligning said substantial point source of light with said
5 reflector axis.

147. A combination of claim 146, wherein said
actuating member is a lever removably coupled to said
movable lamp bulb holder.

148. A combination of claim 146, wherein said
10 actuating member is a cam.

149. A combination of claim 148, wherein said
actuating member is a barrel cam comprising a hollow
cylinder having a profiled end surface, said profiled end
surface mechanically coupled to said movable lamp bulb
15 holder.

150. A combination of claim 149, wherein said profiled
end surface including a .055-.065 inch rise for a 70-80
degree circumferential segment of the end surface.

151. A combination of claim 146, further comprising a
20 lock mechanism releasably coupled to said actuating member
to maintain the position of said substantial point source

of light with said reflector axis after said filament has been moved relative to said reflector axis by restricting actuator member movement.

152. A combination of claim 151, wherein said lock
5 mechanism includes a movable rack and a locking tab, said rack coupled to said actuating member and including ribs and slots interposed between said ribs, said locking tab disposed in one of said slots and bearing against said rib to restrict movement of said rack and said actuating
10 member.

153. A combination of claim 151, wherein said reflector includes an abutment adjacent to the second end and substantially perpendicular to the reflector axis, said reflector is controllably translatable in the direction
15 along said axis to vary the relative axial position of said abutment with said lock mechanism.

154. A combination of claim 153, wherein said lock mechanism includes a movable rack and a locking tab, said rack fixedly coupled to said actuating member and including
20 ribs and slots interposed between said ribs, said locking tab disposed in one of said slots and interposed between said reflector abutment and said rack, said locking tab

restrained in said slot and restraining said rack and said actuating member from moving when said reflector abutment contacts the locking tab.

155. A combination of claim 146, further including
5 means for maintaining the position of said filament with said reflector axis after said substantial point source of light has been moved relative to said reflector axis.

156. A flashlight comprising:

a housing for receiving and storing at least one dry
10 cell battery;

a lamp bulb including electrodes operably connected to said battery through an electrical circuit and a filament extending between said electrodes for generating light;

a substantial point source of light on said filament;

15 a switch interposed in said electrical circuit adapted to open said electrical circuit and to close said electrical circuit to cause said filament to generate light;

a head assembly including a lens;

a substantially axisymmetrical reflector for forming a beam of light generated by said filament, said reflector having a first open end adapted to emit a light beam through said lens, a second end adapted to receive said lamp bulb extending toward said first open end, an axis extending from said second end to said first open end and a focal point located on said axis;

adjustable focusing means for varying the position of said substantial point source of light with respect to said focal point;

a movable lamp bulb holder to hold said lamp bulb and maintain the operable connection with said battery; and

an actuating member operatively coupled to said movable lamp bulb holder for moving said lamp bulb filament to position said substantial point source of light coaxial with said reflector axis.

157. A flashlight of claim 156, wherein said actuating member is mechanically coupled to said movable lamp bulb holder.

158. A flashlight of claim 156, wherein said actuating member is slidably coupled to said movable lamp bulb holder.

159. A flashlight of claim 158, wherein said actuating
5 member is a cam.

160. A flashlight of claim 159, wherein said actuating member is a barrel cam comprising a hollow cylinder having a profiled end surface, said profiled end surface mechanically coupled to said movable lamp bulb holder.

10 161. A flashlight of claim 156, wherein said switch is a momentary switch.

162. A flashlight of claim 156, further comprising a lock mechanism releasably coupled to said actuating member to maintain the position of said substantial point source
15 of light with said reflector axis after said filament has been moved relative to said reflector axis by restricting actuator member movement.

163. A flashlight of claim 162, wherein said lock mechanism includes a movable rack and a locking tab, said
20 rack fixedly coupled to said actuating member and including ribs and slots interposed between said ribs, said locking

tab disposed in one of said slots and bearing against said rib to restrict movement of said rack and said actuating member.

164. A flashlight of claim 162, wherein said movable
5 lamp holder includes an actuation interface, wherein said actuating member couples with said actuation interface.

165. A flashlight of claim 164, wherein said actuation interface is a hexagonal socket.

166. A flashlight of claim 156 further including means
10 for maintaining the position of said substantial point source of light with said reflector axis after said filament has been moved relative to said reflector axis.

167. A flashlight of claim 156 further including a curved conductor interposed in said electrical circuit and
15 operably connected to an electrode of said lamp bulb and mounted to said movable lamp bulb holder for maintaining the operable connection between said lamp bulb electrodes and said battery while moving said lamp bulb filament relative to said reflector axis.

20 168. A flashlight of claim 167, wherein said curved conductor includes a first contact and a second contact

electrically connected to said first contact, said first contact adapted to frictionally receive the electrode of said lamp bulb, said second contact includes a curved area for maintaining an equidistant electrical contact location
5 relative to an adjacent electrically connecting conductor.

169. A flashlight of claim 156 further including an adaptable conductor means operably connected to an electrode of said lamp bulb for maintaining electrical contact while moving said lamp bulb filament relative to
10 said reflector axis.

170. A flashlight of claim 156 further including a spring within one end of said housing and urging said at least one dry cell battery toward said other end of said housing.

15 171. A flashlight of claim 170 further including a spring biased conductor operably connected to said switch on one end and coupled to the center electrode of said battery for protecting said battery from damage.

172. A flashlight of claim 171, wherein said spring
20 biased conductor includes a first conductor receptacle, a second conductor receptacle and a spring, said first conductor receptacle slidably disposed to the inner cavity

of said second conductor receptacle with said spring
compressed and contained therebetween, said spring urging
one of said first conductor receptacle and said second
conductor receptacle towards the center electrode of said
5 battery.

173. A flashlight of claim 172, wherein said second
receptacle includes a dimple, said dimple causing a local
reduction in the inner cavity of said second conductor
receptacle to provide a local interference when between
10 said first conductor receptacle and said second conductor
receptacle to enhance electrical connection between said
conductor receptacles.

174. A flashlight of claim 156 further including a
spring conductor means operably coupled to a center
15 electrode of said battery for protecting said battery from
damage.

175. A flashlight comprising:

a housing for receiving at least one battery including
first and second ends;

20 a lamp bulb including a filament;

a head assembly mounted to the first end of the housing, said head assembly including a reflector and a head fixedly mounted in a fixed relationship with said reflector, said reflector having a first open end adapted
5 to emit a beam of light, a second end adapted to receive said lamp bulb extending toward said first open end, and an axis extending from said second end to said first open end;

a movable lamp bulb holder to hold said lamp bulb;

actuating means for moving said lamp bulb and lamp
10 bulb filament relative to said reflector axis;

a tail cap removably mounted to the second end of said housing including a tail cap spring, said tail cap spring urging said at least one battery towards the first end of said housing;

15 an electrical circuit coupling the lamp bulb filament to said at least one battery; and

a switch including a spring biased conductor interposed in the electrical circuit between said at least one battery and said lamp bulb filament.

20 176. A flashlight of claim 175, wherein said spring biased conductor includes a first conductor receptacle, a

second conductor receptacle and a spring, said first
conductor receptacle slidably disposed to the inner cavity
of said second conductor receptacle with said spring
compressed and contained therebetween, said spring urging
5 one of said first conductor receptacle and said second
conductor receptacle towards the center electrode of said
battery.

177. A flashlight of claim 176, wherein said second
receptacle includes a dimple, said dimple causing a local
10 reduction in the inner cavity of said second conductor
receptacle to provide a local interference between said
first conductor receptacle and said second conductor
receptacle to enhance electrical connection between said
receptacles.

15 178. A flashlight of claim 175 further including an
adaptable curved conductor mounted to said movable lamp
bulb holder and interposed in said electrical circuit for
maintaining electrical connection between said filament
with said battery when said actuating means moves said lamp
20 bulb filament.

179. A flashlight of claim 175, wherein said second
end of said housing is adapted to be received by said head

assembly to support said housing in a substantially upright position when said head assembly is removed from said first end of said housing.

180. A flashlight of claim 175 further comprising a
5 lock mechanism releasably coupled to said actuating means to maintain the position of said filament with said reflector axis after said filament has been moved relative to said reflector axis by restricting actuator means movement.

10 181. A flashlight of claim 180, wherein said lock mechanism includes a movable rack and a locking tab, said rack fixedly coupled to said actuating means and including ribs and slots interposed between said ribs, said locking tab disposed in one of said slots and bearing against said
15 rib to restrict movement of said rack and said actuating means.

182. A flashlight of claim 180, wherein said reflector includes an abutment adjacent to the second end of said reflector and substantially perpendicular to the reflector
20 axis, said reflector controllably translatable in the direction along said axis to vary the relative axial position of said abutment with said lock mechanism.

183. A flashlight of claim 182, wherein said lock mechanism includes a movable rack and a locking tab, said rack fixedly coupled to said actuating means and including ribs and slots interposed between said ribs, said tab
5 disposed in one of said slots and interposed between said reflector abutment and said rack, said tab restrained in said slot and said rack and restraining said actuating means from moving when said reflector abutment contacts the tab.

10 184. A flashlight of claim 175 further including means for maintaining the position of said filament with said reflector axis after said filament has been moved relative to said reflector axis.

15 185. A flashlight comprising:

a barrel for retaining a battery source of power, the barrel having a first and second ends and comprising an electrically conductive material;

a lamp bulb including a filament for generating light;

20 a reflector disposed on the first end of the barrel for forming a beam of light having a first open end adapted

to emit a beam of light generated by said filament, a
second end adapted to receive said lamp bulb extending
toward said first open end, an axis extending from said
second end to said first open end and a focal point located
5 on said axis;

an electrical circuit coupling the lamp bulb to said
battery, said electrical circuit including switch means
interposed therein;

a movable means for holding and moving said lamp bulb
10 and maintaining the operable electrical connection with
said battery; and

an actuating means for moving said lamp bulb filament
relative with said reflector axis.

186. A flashlight of claim 185 further including an
15 adjustable focusing means to vary the position of said
filament with respect to said focal point in a direction
parallel to said axis.

187. A flashlight of claim 186, wherein said
adjustable focusing means is coupled to the switch means.

188. A flashlight of claim 185, wherein said switch means and actuating means are integral to each other.

189. A flashlight comprising:

a housing for receiving at least one battery;

5 a lamp bulb including electrodes operably connected to said battery through an electrical circuit and a filament extending between said electrodes for generating light;

 a head assembly including a lens and a substantially axisymmetrical reflector for forming a beam of light
10 generated by said filament, said reflector having a first open end adapted to emit said beam of light through said lens, a second end adapted to receive said lamp bulb extending toward said first open end, an axis extending from said second end to said first open end and a focal
15 point located on said axis;

a movable lamp bulb holder to hold said lamp bulb; and

actuating means operatively coupled to said movable lamp holder for moving said lamp bulb filament relative to said reflector axis.

190. A flashlight of claim 189 further including adjustable focusing means to vary the position of said filament with respect to said focal point in a direction parallel to said axis.

5 191. A flashlight of claim 190 further including a switch means coupled to said adjustable focusing means and interposed in said electrical circuit for opening and closing said electrical circuit when the position of said filament with respect to said focal point is varied in a
10 direction parallel to said axis.

192. A flashlight of claim 191, wherein said switch means includes a spring biased conductor.

193. A flashlight of claim 189 further including a locking means for restricting said actuating means from
15 moving said lamp bulb filament relative to said reflector axis.

194. A flashlight of claim 189, wherein said head assembly includes a removable sleeve, wherein said sleeve covers access to said movable lamp bulb holder when secured
20 to said head assembly, and wherein said sleeve uncovers and

facilitates moving said movable lamp bulb holder when removed from said head assembly.

195. A flashlight of claim 189 further including a conducting member interposed between said housing and said
5 head assembly, wherein said conducting member is electrically coupled to said electrical circuit for recharging said at least one battery.

196. A flashlight comprising:

means for housing a portable source of electrical
10 energy;

a bulb means including electrodes operably connected to said portable source of electrical energy through an electrical circuit and a filament extending between said electrodes for generating light;

15 means for translating a substantially axisymmetrical reflector for forming a beam of light generated by said filament, said reflector including a first open end adapted to emit said beam of light, a second end adapted to receive said lamp bulb extending toward said first open end, an

axis extending from said second end to said first open end
and a focal point located on said axis;

a movable means for holding and moving said lamp bulb;
and

5 an actuating means operatively coupled to said movable
means for moving said filament relative to said reflector
axis.

197. A lighting device comprising:

a barrel containing a plurality of batteries, wherein
10 said batteries are arranged end-to-end;

a light source held in a holder;

a variable length conductor that axially contracts or
expands in response to pressure from said plurality of
batteries interposed between and electrically coupling said
15 light source and said plurality of batteries, wherein said
variable length conductor is configured to selectively
electrically couple or de-couple said light source and said
plurality of batteries.

198. A lighting device of claim 197 further including
a head mounted to one end of said barrel, wherein said
variable length conductor selectively electrically couples
or de-couples said light source and said plurality of
5 batteries in response to rotation of said head.

199. A lighting device of claim 197, wherein said
variable length conductor includes a first receptacle, a
second receptacle and a spring member interposed
therebetween.

10 200. A lighting device of claim 197, wherein said
holder is configured to move said light source
substantially laterally relative to an axis of a reflector.

201. A lighting device comprising:

a plurality of batteries, wherein said batteries are
15 arranged end-to-end;

a light source held in a holder;

a switch interposed between said plurality of
batteries and said holder including a spring-biased
conductor configured to electrically couple said plurality
20 of batteries to said light source, wherein said spring-

biased conductor maintains electrical couple with said plurality of batteries when said plurality of batteries moves relative to said switch.

202. A lighting device of claim 201 further including
5 a barrel containing said batteries arranged end-to-end.

203. A lighting device of claim 201, wherein said holder is a movable holder.

204. A lighting device of claim 203, wherein said movable holder moves said light source by rotating about an
10 axis not coincident with a reflector axis.

205. A lighting device of claim 203, wherein said movable holder includes a receiver for holding said light source, wherein said movable holder is adapted to move said light source substantially laterally relative to a
15 reflector axis.